1
00:00:00,667 --> 00:00:05,272
[music]

2
00:00:05,272 --> 00:00:08,809
Mysteries abound in our
universe, but bit by bit, we are

3
00:00:08,809 --> 00:00:13,380
unlocking its secrets. We now
know that our galaxy contains

4
00:00:13,380 --> 00:00:16,617
billions of other planets – but
how can we learn more about

5
00:00:16,617 --> 00:00:23,690
them? What traits do these
exoplanets have? What are they

6
00:00:23,690 --> 00:00:27,995
made of? What are their
environments like? How have they

7
00:00:27,995 --> 00:00:35,836
evolved over time? Are they
habitable? And can planets lose

8
00:00:35,836 --> 00:00:40,707
habitability over time? Imagine
we could study one of these

9
00:00:40,707 --> 00:00:47,681
planets up close. We find one of
similar size, mass, and

10
00:00:47,681 --> 00:00:51,785
composition as Earth. By all
accounts, this planet appears

11

00:00:51,785 --> 00:00:55,756
very similar to our own. We
discover evidence that this

12
00:00:55,756 --> 00:00:59,126
world may have once had liquid
water oceans and volcanoes – a

13
00:00:59,126 --> 00:01:04,131
setting that could have been
favorable to life. But over

14
00:01:04,131 --> 00:01:07,868
time, something drastic happened
to this environment. This

15
00:01:07,868 --> 00:01:10,837
planet’s sun grew brighter and
hotter - increasing the

16
00:01:10,837 --> 00:01:14,975
temperature here to the point
that the oceans boiled away. And

17
00:01:14,975 --> 00:01:17,678
then gradually, the volcanic
gasses created a thick

18
00:01:17,678 --> 00:01:21,248
atmosphere with clouds of
sulfuric acid. That once

19
00:01:21,248 --> 00:01:26,119
friendly environment was gone.
But all is not lost. The

20
00:01:26,119 --> 00:01:28,989
remnants of such a world may
hold the key to understanding

21

00:01:28,989 --> 00:01:33,193
planetary evolution and
habitability. The twist is that

22
00:01:33,193 --> 00:01:37,698
this isn’t science fiction, this
planet does exist. And if we

23
00:01:37,698 --> 00:01:40,167
want to learn more about the
past, present, and possible

24
00:01:40,167 --> 00:01:44,037
future of our planet and the
billions of similar exoplanets

25
00:01:44,037 --> 00:01:50,110
out there – this mysterious one
needs more study. And it doesn’t

26
00:01:50,110 --> 00:01:54,081
reside in some distant solar
system, truth be told, it sits

27
00:01:54,081 --> 00:02:01,355
right next door. This planet
is Venus. And the more mysteries